

PRELIMINARY DESIGN REVIEW (PDR) PAPER

	Points Possible	Self edit	Peer edit	Score	Exemplary	Developing	Beginning
Problem Statement					Provides a thorough, concise, and detailed introduction to the main goals of the design project, the general objectives, and the client (if appropriate). Includes a cogent discussion of all relevant links to other related designs/devices.	Defines the main goals and most of the general objectives posed by the problem.	Goals and objectives are incomplete. Lacks fluency, organization, and detail.
Functional Requirements & Design Objectives					Provides a detailed, thorough, and well-organized description of the required functions of the project and defines design objectives for each requirement, their relative importance, & current status.	Describes the required functions of the project and generally covers priorities, design objectives, and current status.	Review of the required functions of the project is incomplete &/or lacks prioritization, analysis of design objectives, or a statement of current status.
Alternative Design Concepts					Demonstrates creative, well-analyzed, & researched design alternatives that are described thoroughly with their pros/cons.	Describes design alternatives with an incomplete or superficial level of pro/con analysis.	Description of design alternatives is incomplete and superficial.
Scale Model of Critical Design Component					Provides a detailed description of the building &/or testing of a scale model of the critical design component that includes a well-analyzed & thorough discussion of the impact of the results on the design process.	Describes the building &/or testing of a scale model of a critical design component.	Description of the building &/or testing of a scale model of a critical design component is unorganized.
Description of Plan					Provides a project plan with a realistic & detailed timeline that includes all anticipated objectives.	Discusses the project plan with a specific, but incomplete timeline (e.g., misses the inclusion of some objectives or time considerations).	Project plan does not include specific objectives or a well-organized timeline.
Conclusion & Recommendation					Provides a clear, organized, & concise summary that reviews all of the key points & does not introduce new information.	Provides an organized summary that is either wordy with too much information or does not sufficiently review key points.	Summary is either too wordy or insufficiently covers key points. Lacks fluency and organization.
Spelling & Grammar					Correct spelling and grammar are pervasive.	Contains several spelling and grammatical errors.	Contains frequent spelling and grammatical errors.
Prose					Document is fluid, coherent, clear, and logical in thought & organization. Paragraphs are well-developed and contain transitions. Demonstrates mature, professional prose and word choice.	Document is somewhat fluent and coherent, although it contains logical inconsistencies in either thought or organization.	Document is wordy and vague. It lacks coherence and logic in thought and organization. Writing is disjointed and lacks transitions.
Edits					In addition to self-editing, paper was edited at the writing center and/or peer-edited.	Paper was self-edited.	Paper was not edited.
Total:							

Signature of Peer Editor _____ Date: _____

CRITICAL DESIGN REVIEW (CDR) PAPER

	Points Possible	Self edit	Peer edit	Score	Exemplary	Developing	Beginning
Problem Statement					Provides a thorough and concise introduction to the main goals of the design project & the general objectives posed by the problem.	Defines the main goals, but the general objectives are incomplete. Lacks concise detail.	Goals and objectives are incomplete. Lacks fluency, organization, and concise detail.
Design Plan					Provides a detailed, thorough, and well-organized description of the design plan & project that defines design objectives for each requirement, key features, & its current status.	Overview of the design plan is missing some of the following: description of key features, overview of design objectives, &/or its current construction status.	Provides an incomplete review of the design plan & key features.
Cost Options & Budgeting					Using a well-organized table, compares the design component options, costs, and rationale for selection. Includes a discussion of reasoning for item selection, projected total expenditure, costs to date, & the team's budget performance. Demonstrates detail and thorough analysis.	Comparison of options & costs of the design components is missing some of the following: rationale for item selection, a discussion of the projected total expenditures, costs to date, & the team's budget performance.	Comparison of the design components' options and costs is poorly organized and lacks sufficient detail.
Critical Design Component Testing					Provides a detailed description of the building &/or testing of the critical design component that includes a well-analyzed & thorough discussion of the difficulty of construction & assembly, tests performed, & the impact of the results on the design process. Results are presented in tables & figures and appropriately referenced in the text.	Discussion includes some of the following: the difficulty of construction & assembly, tests performed, & the impact of the results on the design process.	Description of the building &/or testing of a critical design component is incomplete &/or unorganized.
Progress Assessment & Identification of Problems					Provides a detailed and thoughtful analysis of the project development including identification of areas requiring more effort, components requiring redesigning, & estimates of time required to complete new work & the entire project. Includes a well-organized and comprehensive timeline or table to illustrate completion dates.	Incomplete discussion of areas requiring more effort, components requiring redesigning, & estimates of time required to complete the project.	Description of project development does not include a thorough assessment of next steps in the design process or detailed time estimates.
Conclusions & Recommendations					Provides a clear, organized, & concise summary that reviews all of the key points & does not introduce new information.	Summary is organized, but is either wordy with too much information or does not sufficiently review key points.	Summary is either too wordy or provides insufficient coverage of key points and lacks in fluency and organization.
Spelling & Grammar					Correct spelling and grammar are pervasive.	Contains several spelling and grammatical errors.	Contains frequent spelling and grammatical errors.
Prose					Document is fluid, coherent, clear, and logical in thought & organization. Paragraphs are well-developed and contain transitions. Demonstrates mature, professional prose and word choice.	Document is somewhat fluent and coherent, although it contains logical inconsistencies in either thought or organization.	Document is wordy and vague. It lacks coherence and logic in thought and organization. Writing is disjointed and lacks transitions.
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FINAL DESIGN PROJECT REPORT

	Points Possible	Self edit	Peer edit	Score	Exemplary	Developing	Beginning
Executive Summary					Provides a cogent, concise, & thorough overview of the project goal; description of the project and final design; performance of the project and the results of the design evaluation; and recommendations for modifications or continued work. Despite brief format, content is fluent. Summary does not exceed one page.	Overview is either missing a section or is too wordy and exceeds one page.	Overview lacks a thorough review of the design project. Summary is lacking in fluency, organization, and concise detail.
Introduction					Provides a detailed (yet concise) and fluent discussion of the problem statement, how the project relates to others in the field, the physics of the problem, and a brief statement of the work accomplished & conclusions reached. Illustrations and references look professional, are integrated in to the discussion in the text, and use the appropriate format.	Overview of the project is nearly comprehensive. Illustrations and references contribute to the reader's understanding of the project.	Review of the project & key features is incomplete and lacks analysis of the design objectives and process. Illustrations and references are sloppy and/or incomplete.
Detailed Design Description					Provides a clear, organized, and thoughtful analysis of the design process. Includes thorough detail on design requirements & analysis of design ideas (including those that were discarded). Provides a comprehensive description of the full design; individual components; and assembly, operation, & maintenance, as appropriate. Includes detailed and professional-looking engineering drawings that are integrated into the discussion in the text.	Discussion describes most aspects of the design process. Includes appropriate engineering drawings that lack some detail &/or are not appropriately referred to in the text.	Provides an incomplete &/or unorganized description of the design process that fails to give the reader a conceptual understanding of the team's rationale on design decisions. Engineering drawings, if included, are sloppy and lacking in detail.
Project Evaluation					Provides a detailed description of the testing of the design project that includes a well-analyzed discussion of the tests performed for each performance goal, the impact of the results on the design process, & recommendations and limitations. Results are organized and presented in tables and figures and are appropriately referenced in the text.	Describes most aspects of the testing of each project performance goal.	Provides an incomplete &/or unorganized description of the testing of the project's performance goals.
Cost Analysis					Using a well-organized table, compares all of the design component options, costs, and rationale for selection. Includes a discussion of reasoning for item selection, total expenditure, & the team's budget performance. Demonstrates detail and thorough analysis.	Describes most aspects of the comparison of options & costs for the design components.	Comparison of the design components' options and costs is poorly organized and lacks sufficient detail (e.g., just gives a cost summary).
Conclusions & Recommendations					Provides a clear, organized, & concise summary that reviews the outcomes of the design project. Conclusions and recommendations are thoughtful, positive, and comprehensive.	Summary is either wordy with too much information or does not completely review project successes and learning outcomes.	Summary provides insufficient coverage of the project and outcomes. It is lacking in fluency and organization.
References					Lists all references used in correct format. The content demonstrates creativity & persistence in information gathering.	Lists references with few errors in format.	Does not provide a complete list of references or uses incorrect format.
Spelling & Grammar					Correct spelling and grammar are pervasive.	Contains several spelling and grammatical errors.	Contains frequent spelling and grammatical errors.
Prose					Document is fluid, coherent, clear, and logical in thought & organization. Paragraphs are well-developed and contain transitions. Demonstrates mature, professional prose and word choice.	Document is somewhat fluent and coherent, although it contains logical inconsistencies in either thought or organization.	Document is wordy and vague. It lacks coherence and logic in thought and organization. Writing is disjointed and lacks transitions.
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